

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A louvered fin for a heat exchanger, comprising:

a first corrugated strip having planar and connecting portions that are alternately arranged to make a corrugation, said first corrugated strip extending straight in a longitudinal direction;

a plurality of first louvers formed in each planar portion such that said first louvers are arranged in a lateral direction perpendicular to said longitudinal direction, said first louvers in each planar portion being configured to be in asymmetry with respect to a center line of the planar portion in said lateral direction;

a straightening member for keeping said first corrugated strip in a straight shape in said longitudinal direction, said straightening member extending along a longitudinal side of said first corrugated strip; and

a first bridge member for attaching said first corrugated strip and said straightening member together such that a detachment of said straightening member from said first corrugated strip is allowed by breaking said first bridge member after said first corrugated strip is fixed between first and second adjacent tubes of said heat exchanger in a production of said heat exchanger.

2. (Original) A louvered fin according to claim 1, wherein said first louvers are orientated in a first uniform direction.

3. (Original) A louvered fin according to claim 2, wherein said straightening member comprises:

a second corrugated strip extending along said longitudinal direction of said first corrugated strip and having planar and connecting portions that are alternately arranged to make a corrugation; and

a plurality of second louvers formed in each planar portion of said second corrugated strip such that said second louvers are arranged in said lateral direction and are orientated in a second uniform direction that is opposite to the first uniform direction of said first louvers.

4. (Original) A louvered fin according to claim 3, further comprising a second bridge member for attaching said first and second corrugated strips together, said first and second bridge members being formed at an interval in said longitudinal direction with an interpositional slit between said first and second bridge members.

5. (Original) A louvered fin according to claim 4, wherein each of said first and second bridge members is disposed in said lateral direction between said connecting portion of said first corrugated strip and said connecting portion of said second corrugated strip.

6. (Original) A louvered fin according to claim 3, wherein each connecting portion of said first and second corrugated strips has a planar shape and is prepared by straightening a V-shaped portion of a blank of said first and second corrugated strips into said planar shape.

7. (Withdrawn) A heat exchanger comprising a first assembly, said first assembly including:

first and second tanks;

first and second tubes extending between said first and second tanks such that a heat-exchanger medium is allowed to flow from said first tank to said second tank;

a first corrugated strip fixed between said first and second tubes, said first corrugated strip having planar and connecting portions that are alternately arranged to make a corrugation, said first corrugated strip extending straight in a longitudinal direction and having a fracture surface at a longitudinal side of said first corrugated strip; and

a plurality of first louvers formed in each planar portion such that said first louvers are arranged in a lateral direction perpendicular to said longitudinal direction and such that said first louvers in each planar portion is configured to be in asymmetry in said lateral direction;

wherein said heat exchanger is produced by a method comprising the steps of:

(1) providing a louvered fin comprising (a) said first corrugated strip; (b) said first louvers; (c) a straightening member for keeping said first corrugated strip in a straight shape in said longitudinal direction, said straightening member extending along a longitudinal side of said first corrugated strip; and (d) a first bridge member for attaching said first corrugated strip and said straightening member together;

(2) fixing said first corrugated strip between said first and second tubes such that said first corrugated strip is kept in said straight shape by said first and second tubes; and

(3) detaching said straightening member from said first corrugated strip by breaking said first bridge member such that there is provided a sandwiched structure having said first corrugated strip fixed between said first and second tubes and such that said fracture surface of said first corrugated strip is exposed.

8. (Withdrawn) A heat exchanger according to claim 7, wherein said straightening member used in said method comprises:

a second corrugated strip extending along said longitudinal side of said first corrugated strip and having planar and connecting portions that are alternately arranged to make a corrugation; and

a plurality of second louvers formed in each planar portion of said second corrugated strip such that said second louvers are arranged in said lateral direction and are symmetrical to said first louvers about said first bridge member.

9. (Withdrawn) A heat exchanger according to claim 8, further comprising a second assembly, said second assembly including:

third and fourth tanks;

third and fourth tubes extending between said third and fourth tanks such that a heat-exchanger medium is allowed to flow from said third tank to said fourth tank;

said second corrugated strip fixed between said third and fourth tubes and having a fracture surface at a longitudinal side of said second corrugated strip; and

said second louvers formed in each planar portion of said second corrugated strip;

wherein said method further comprises, prior to the step (3), the step of fixing said second corrugated strip between said third and fourth tubes such that said second corrugated strip is kept in a straight shape by said third and fourth tubes, and

wherein the step (3) of said method is conducted such that there is provided a sandwiched structure having said second corrugated strip fixed between said third and fourth tubes and such that said fracture surface of said second corrugated strip is exposed.

10. (Withdrawn) A heat exchanger according to claim 8, wherein said first and second louvers are respectively orientated in a first uniform direction and a second uniform direction.

11. (Withdrawn) A method for producing a heat exchanger, said method comprising the steps of:

(1) providing a louvered fin, said louvered fin comprising:

(a) a first corrugated strip having planar and connecting portions that are alternately arranged to make a corrugation, said first corrugated strip extending straight in a longitudinal direction;

(b) a plurality of first louvers formed in each planar portion such that said first louvers are arranged in a lateral direction perpendicular to said longitudinal direction, said first louvers in each planar portion being configured to be in asymmetry in said lateral direction;

(c) a straightening member for keeping said first corrugated strip in a straight shape in said longitudinal direction, said straightening member extending along a longitudinal side of said first corrugated strip; and

(d) a first bridge member for attaching said first corrugated strip and said straightening member together,

(2) fixing said first corrugated strip between first and second adjacent tubes of said heat exchanger such that said first corrugated strip is kept in said straight shape by said first and second tubes; and

(3) detaching said straightening member from said first corrugated strip by breaking said first bridge member such that there is provided a first sandwiched structure having said first corrugated strip fixed between said first and second tubes.

12. (Withdrawn) A method according to claim 11, wherein said louvered fin is prepared by a method comprising the steps of:

(4) providing a first blank of said first corrugated strip with said straightening member and said first bridge member such that said straightening member extends along a longitudinal side of said first blank and is attached to said first blank through said first bridge member;

(5) forming said first louvers in said first blank;

(6) shaping said first blank into a first corrugated blank; and

(7) cutting each of said first corrugated blank and said straightening member to have a length in said longitudinal direction, thereby preparing said louvered fin.

13. (Withdrawn) A method according to claim 12, wherein, in the step (5), said first louvers are orientated in a first uniform direction.

14. (Withdrawn) A method according to claim 11, wherein said straightening member comprises:

a second corrugated strip extending along said longitudinal side of said first corrugated strip and having planar and connecting portions that are alternately arranged to make a corrugation; and

a plurality of second louvers formed in each planar portion of said second corrugated strip such that said second louvers are arranged in said lateral direction and are symmetrical to said first louvers about said first bridge member.

15. (Withdrawn) A method according to claim 14, wherein said louvered fin is prepared by a method comprising the steps of:

(4) providing a first blank of said first corrugated strip with a second blank of said second corrugated strip and the first bridge member such that said second blank extends along a longitudinal side of said first blank and is attached to said first blank through said first bridge member;

(5) forming said first and second louvers respectively in said first and second blanks;

(6) shaping said first and second blanks respectively into first and second corrugated blanks; and

(7) cutting each of said first and second corrugated blanks to have a length in said longitudinal direction, thereby preparing said louvered fin.

16. (Withdrawn) A method according to claim 15, wherein the step (4) is conducted by perforating a blank of said louvered fin at regular intervals in a longitudinal direction of said blank such that said first and second blanks are formed and such that said first bridge member is provided between adjacent first and second perforations formed by said perforating.

17. (Withdrawn) A method according to claim 16, wherein the step (6) is conducted by bending said first and second blanks at a position of said first bridge member in said lateral direction.

18. (Withdrawn) A method according to claim 15, wherein each connecting portion of said first and second corrugated strips is prepared by straightening a V-shaped portion of each of said first and second blanks into a planar shape.

19. (Withdrawn) A method according to claim 11, wherein the step (3) is conducted by applying a vibration to said louvered fin to break said first bridge member.

20. (Withdrawn) A method according to claim 11, wherein the step (3) is conducted by rotating said first sandwiched structure and said straightening member relative to each other to break said first bridge member.

21. (Withdrawn) A method according to claim 15, further comprising the sequential steps of:

(8) fixing said second corrugated strip between third and fourth tubes to prepare a second sandwiched structure;

(9) rotating said first sandwiched structure, which has said first corrugated strip fixed between said first and second tubes, and said second sandwiched structure relative to each other by about 90 degrees;

- (10) attaching first and second tanks to said first and second tubes; and
- (11) attaching third and fourth tanks to said third and fourth tubes.

